

LESSON 2.8

NAME _____

DATE _____

Practice B

For use with pages 122–128

Tell whether the graph of the function opens up or down.

1. $y = |x + 3| - 5$

2. $y = -4|x - 1| + 6$

3. $y = \frac{2}{3}|x - 2| + 9$

Identify the vertex of the graph of the given function.

4. $y = 2|x + 13| - 6$

5. $y = -3|x - 4| - 7$

6. $y = \frac{1}{5}|x + 2| + 11$

Tell whether the graph is *wider*, *narrower*, or the *same width* as the graph of $y = |x|$.

7. $y = \frac{3}{5}|x - 3| + 7$

8. $y = -8|x + 9| - 12$

9. $y = -\frac{5}{2}|x - 1| - 3$

Graph the function.

10. $y = |x| - 4$

11. $y = |x - 4|$

12. $y = |x + 2| - 3$

13. $y = |x + 1| + 3$

14. $y = 2|x - 3|$

15. $y = -|x + 5|$

16. $y = |x - 4| + 5$

17. $y = 3|x - 1| - 2$

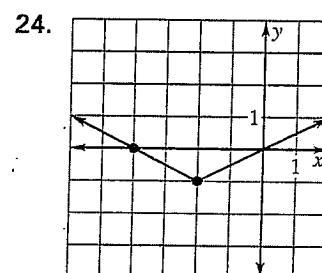
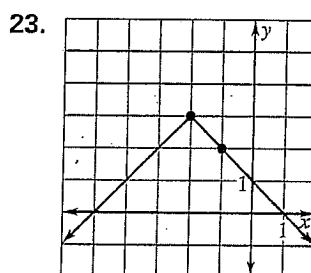
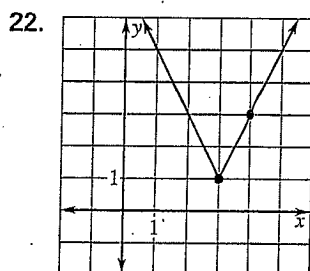
18. $y = -2|x + 7| - 4$

19. $y = \frac{1}{2}|x| - 2$

20. $y = \frac{2}{3}|x + 2| + 1$

21. $y = -\frac{1}{2}|x - 1| + 2$

Write an equation of the graph shown.

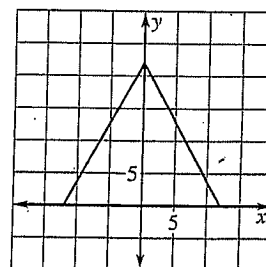


A-Frame Home In Exercises 25 and 26, use the following information.

The roof line of an A-frame home follows the path given by $y = -\frac{11}{6}|x| + 22$. Each unit on the coordinate plane represents one foot.

25. Find the vertex of the graph.

26. What does the y-value of the vertex tell us about the home?



Fine Dining In Exercises 27 and 28, use the following information.

An exclusive restaurant is open from 3:00 P.M. to 10:00 P.M. Each evening, the number of people served S increases steadily and then decreases according to the model $S = -30|t - 6.5| + 105$ where $t = 0$ represents 12:00 P.M.

27. Graph the function.

28. Find the vertex of the graph. Explain what each coordinate of the vertex represents.